

Amendments to the Claims

18. (Newly added) An apparatus for embedding a watermark into contents data, comprising:

parameter converting means for converting a specified parameter of at least one segment of first contents data in response to parameter information and map data, the segment corresponding to a specified pixel to generate second contents data, the parameter information designating the specified parameter which affects reproduction of the first contents data, the map data designating a position of the specified pixel; and

mixing means for embedding the parameter information and the map data into the second contents data as watermark information.

19. (Newly added) An apparatus as recited in claim 18, wherein the parameter converting means comprises means for converting a specified parameter of segments of the first contents data which correspond to specified pixels forming a specified picture portion.

20. (Newly added) An apparatus as recited in claim 18, wherein the mixing means comprises means for embedding copyright information, the parameter information, and the map data into the second contents data as watermark information.

21. (Newly added) An apparatus as recited in claim 18, wherein the parameter converting means comprises means for converting a specified parameter of segments of the first contents data which correspond to specified pixels at watermark-embedded positions, and the parameter information includes a parameter value indicative of a rate of the conversion of the specified parameter, wherein the mixing means comprises a first mixer and a second mixer, wherein the first mixer comprises pattern generating means for generating bits representing a predetermined bit pattern, specified-bit detecting means for detecting bits in the second contents data as specified bits which correspond to the specified pixels at the watermark-embedded positions, calculating

means for calculating a desired bit pattern represented by the specified bits in response to the predetermined bit pattern and a specified bit pattern, and changing means for changing the specified bits to represent the desired bit pattern to convert the second contents data into bit-pattern-added contents data, and wherein the second mixer comprises means for embedding copyright information, the parameter information, and the map data into the bit-pattern-added contents data as watermark information.

22. (Newly added) An apparatus for reproducing original contents data from watermarked contents data generated by (1) converting a specified parameter of at least one segment of the original contents data in response to parameter information and map data to generate second contents data, the segment corresponding to a specified pixel, the parameter information designating the specified parameter which affects reproduction of the original contents data, the map data designating a position of the specified pixel, and (2) embedding the parameter information and the map data into the second contents data as watermark information, the apparatus comprising:

parameter detecting means for detecting the parameter information and the map data from the watermarked contents data; and parameter inversely converting means for inversely converting the specified parameter of at least one segment of the watermarked contents data in response to the parameter information and the map data detected by the parameter detecting means to reproduce the original contents data, wherein the segment of the watermarked contents data corresponds to the specified pixel whose position is designated by the map information.

23. (Newly added) An apparatus as recited in claim 22, wherein the watermarked contents data include copyright information, the parameter information, and the map data as the watermark information, and further comprising copyright information detecting means for detecting the copyright information from the watermarked contents data.

24. (Newly added) An apparatus as recited in claim 22, wherein the watermarked contents data have been generated by converting a specified parameter of segments of the original contents data which correspond to specified pixels at watermark-embedded positions, and the parameter information includes a parameter value indicative of a ratio of the conversion of the specified parameter, wherein the parameter detecting means comprises pattern generating means for generating bits representing a predetermined bit pattern, operation means for selecting specified bits among bits in the watermarked contents data, for repetitively changing the currently-selected specified bits from ones to others, and for executing given logical operation between the predetermined bit pattern and a bit pattern represented by the currently-selected specified bits, embedding-position detecting means for deciding whether or not a result of the given logical operation is equal to a specified bit pattern, and for, when the result of the given logical operation is equal to the specified bit pattern, deciding that the currently-selected specified bits correspond to a watermark-embedded position, and parameter-value detecting means for detecting the parameter value in the detected parameter information, wherein the parameter inversely converting means comprises an inverse converter for, in response to the parameter value detected by the parameter-value detecting means, inversely converting the specified parameter of the segments of the watermarked contents data which correspond to the specified pixels at the watermark-embedded positions decided by the embedding-position detecting means.

25. (Newly added) An apparatus as recited in claim 24, wherein the predetermined bit pattern and the specified bit pattern remain unchanged when being rotated through one of 90, 180, and 270 degrees.

26. (Newly added) A recording medium for storing watermarked contents data generated by (1) converting a specified parameter of at least one segment of original contents data in response to parameter information and map data to generate second contents data, the segment corresponding to a specified pixel, the parameter information designating the specified parameter which affects reproduction of the

original contents data, the map data designating a position of the specified pixel, and (2) embedding the parameter information and the map data into the second contents data as watermark information.

27. (Newly added) A recording medium as recited in claim 26, wherein a specified parameter of segments of the original contents data which correspond to specified pixels at watermark-embedded positions is converted from an original value, and the parameter information includes a parameter value indicative of a rate of the conversion of the specified parameter, wherein the watermarked contents data are produced by generating bits representing a predetermined bit pattern, detecting bits in the contents data as specified bits which correspond to the specified pixels at the watermark-embedded positions, calculating a desired bit pattern represented by the specified bits in response to the predetermined bit pattern and a specified bit pattern, changing the specified bits to represent the desired bit pattern to convert the contents data into bit-pattern-added contents data, and embedding the parameter information into the bit-pattern-added contents data as watermark information.

28. (Newly added) A recording medium for storing watermarked contents data generated by (1) converting a specified parameter of at least one segment of original contents data in response to parameter information and map data to generate second contents data, the segment corresponding to a specified pixel, the parameter information designating the specified parameter which affects reproduction of the original contents data, the map data designating a position of the specified pixel, and (2) embedding the parameter information, the map data, and copyright information into the second contents data as watermark information.

29. (Newly added) An apparatus for embedding a watermark into contents data, comprising:

address generating means for indicating a jump destination for each of prescribed unit portions of compressively encoded data, and thereby designating an

arrangement order different from an order of reproducing the prescribed unit portions and generating a jump-destination address which affects reproduction of contents data;

information generating means for generating copyright information;

mixing means for embedding the jump-destination address generated by the address generating means and the copyright information generated by the information generating means into input contents data as watermark information to generate first watermark-added contents data;

an encoder for compressively encoding the first watermark-added contents data generated by the mixing means into second watermark-added contents data; and

rearranging means for rearranging prescribed unit portions of the second watermark-added contents data generated by the encoder in response to the jump-destination address generated by the address generating means into an order different from the order of reproducing the prescribed unit portions.

30. (Newly added) An apparatus for embedding a watermark into contents data, comprising:

address generating means for indicating a jump destination for each of prescribed unit portions of compressively encoded data, and thereby designating an arrangement order different from an order of reproducing the prescribed unit portions and generating a jump-destination address which affects reproduction of contents data, wherein the prescribed unit portions correspond to one frame represented by the compressively encoded data;

information generating means for generating copyright information;

mixing means for embedding the jump-destination address generated by the address generating means and the copyright information generated by the information generating means into input contents data as watermark information to generate first watermark-added contents data;

an encoder for compressively encoding the first watermark-added contents data generated by the mixing means into second watermark-added contents data; and

rearranging means for rearranging prescribed unit portions of the second

watermark-added contents data generated by the encoder in response to the jump-destination address generated by the address generating means into an order different from the order of reproducing the prescribed unit portions.

31. (Newly added) An apparatus for reproducing original contents data from watermarked contents data generated by (1) indicating a jump destination for each of prescribed unit portions of compressively encoded data, and thereby designating an arrangement order different from an order of reproducing the prescribed unit portions and generating a jump-destination address which affects reproduction of contents data, (2) generating means for generating copyright information, (3) embedding the jump-destination address and the copyright information into input contents data as watermark information to generate first watermark-added contents data, (4) compressively encoding the first watermark-added contents data into second watermark-added contents data, and (5) rearranging prescribed unit portions of the second watermark-added contents data in response to the jump-destination address into an order different from the order of reproducing the prescribed unit portions, the apparatus comprising:

data reading means for reading input watermarked encoded contents data;

watermark information detecting means for detecting a jump-destination address from the input watermarked encoded contents data read by the data reading means;

address calculating means for calculating a data reading address for each of the prescribed unit portions from the jump-destination address detected by the watermark information detecting means, and outputting the calculated address to the data reading means and thereby enabling the data reading means to read the prescribed unit portions of the Input watermarked encoded contents data in an original normal order; and

a decoder for decoding the input watermarked encoded contents data read by the data reading means into watermarked decoded contents data.

32. (Newly added) An apparatus for reproducing original contents data from watermarked contents data generated by (1) indicating a jump destination for each of

prescribed unit portions of compressively encoded data, and thereby designating an arrangement order different from an order of reproducing the prescribed unit portions and generating a jump-destination address which affects reproduction of contents data, wherein the prescribed unit portions correspond to one frame represented by the compressively encoded data, (2) generating means for generating copyright information, (3) embedding the jump-destination address and the copyright information into input contents data as watermark information to generate first watermark-added contents data, (4) compressively encoding the first watermark-added contents data into second watermark-added contents data, and (5) rearranging prescribed unit portions of the second watermark-added contents data in response to the jump-destination address into an order different from the order of reproducing the prescribed unit portions, the apparatus comprising:

data reading means for reading input watermarked encoded contents data;

watermark information detecting means for detecting a jump-destination address from the input watermarked encoded contents data read by the data reading means;

address calculating means for calculating a data reading address for each of the prescribed unit portions from the jump-destination address detected by the watermark information detecting means, and outputting the calculated address to the data reading means and thereby enabling the data reading means to read the prescribed unit portions of the input watermarked encoded contents data in an original normal order; and

a decoder for decoding the input watermarked encoded contents data read by the data reading means into watermarked decoded contents data.

33. (Newly added) A recording medium for storing watermarked contents data generated by (1) indicating a jump destination for each of prescribed unit portions of compressively encoded data, and thereby designating an arrangement order different from an order of reproducing the prescribed unit portions and generating a jump-destination address which affects reproduction of contents data, (2) embedding the jump-destination address and copyright information into input contents data as

watermark information to generate first watermark-added contents data, (3) compressively encoding the first watermark-added contents data into second watermark-added contents data, and (4) rearranging prescribed unit portions of the second watermark-added contents data in response to the jump-destination address into an order different from the order of reproducing the prescribed unit portions.

34. (Newly added) A recording medium for storing watermarked contents data generated by (1) indicating a jump destination for each of prescribed unit portions of compressively encoded data, and thereby designating an arrangement order different from an order of reproducing the prescribed unit portions and generating a jump-destination address which affects reproduction of contents data, wherein the prescribed unit portions correspond to one frame represented by the compressively encoded data, (2) embedding the jump-destination address and copyright information into input contents data as watermark information to generate first watermark-added contents data, (3) compressively encoding the first watermark-added contents data into second watermark-added contents data, and (4) rearranging prescribed unit portions of the second watermark-added contents data in response to the jump-destination address into an order different from the order of reproducing the prescribed unit portions.

35. (Newly added) An apparatus for embedding a watermark into contents data, comprising:

generating means for generating watermark information which affects reproduction of first contents data;

converting means for converting the first contents data into second contents data in response to the watermark information generated by the generating means; and

embedding means for the watermark information generated by the generating means into the second contents data generated by the converting means.

36. (Newly added) A recording medium for storing watermarked contents data generated by (1) generating watermark information which affects reproduction of first contents data, (2) converting the first contents data into second contents data in response to the watermark information, and (3) embedding the watermark information into the second contents data.

37. (Newly added) An apparatus for reproducing original contents data from watermarked contents data generated by (1) generating watermark information which affects reproduction of first contents data, (2) converting the first contents data into second contents data in response to the watermark information, and (3) embedding the watermark information into the second contents data, the apparatus comprising:

watermark information detecting means for detecting watermark information from input watermarked contents information; and

decoding means for converting the input watermarked contents information back to original watermarked contents information in response to the watermark information detected by the watermark information detecting means.